

## Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

### Listing of Claims:

1. (currently amended) ~~An A~~ recombinant donor bacterium, ~~which is a non-pathogenic conjugative donor bacterium~~ harboring at least one transmissible plasmid, said transmissible plasmid comprising:

a) an origin of replication for synthesizing the plasmid in a bacterial cell, wherein initiation of replication at the origin is negatively controlled by a plasmid replication repressor, wherein in the absence of the plasmid replication repressor the transmissible plasmid undergoes runaway replication;

b) an origin of transfer from which conjugative transfer of the transmissible plasmid initiates from the donor bacterium cell to at least one recipient bacterium cell; and

c) at least one screenable marker gene;

wherein the donor bacterium cell further comprises one or more transfer genes conferring upon the donor bacterium cell the ability to conjugatively transfer the transmissible plasmid to the recipient bacterium cell, and wherein the donor bacterium cell produces the plasmid replication repressor, and further wherein the at least one recipient bacterium cell is a pathogenic bacterium that does not produce the plasmid replication repressor, thereby enabling the transmissible plasmid to undergo runaway replication in the recipient bacterium cell.

2. (currently amended) The recombinant donor bacterium of claim 1, further comprising a helper plasmid, wherein ~~the~~ said one or more transfer genes are contained on a said helper plasmid ~~within the donor cell~~, such that the transmissible plasmid is transmissible from the donor bacterium cell to a recipient bacterium cell, but is not further ~~[[self-]]transmissible from the recipient bacterium cell to another recipient bacterium cell.~~

3. (currently amended) The recombinant donor bacterium of claim 1, wherein ~~the~~ said one or more transfer genes are contained on the transmissible plasmid, such that the transmissible plasmid is ~~[[self-]]transmissible from the donor bacterium cell to a recipient bacterium cell, and further from the recipient bacterium cell to another recipient bacterium cell.~~

4. (currently amended) The recombinant donor bacterium of claim 1, wherein the transmissible plasmid comprises a derivative of a naturally-occurring transmissible plasmid containing a gene encoding the plasmid replication repressor that has been mutated to produce a non-functional plasmid replication repressor.

5. (currently amended) The recombinant donor bacterium of claim 4, wherein the naturally-occurring transmissible plasmid is selected from the group consisting of RK2, R6K, pCU1, p15A, pIP501, pAM $\beta$ 1 and pCRG1600.

6. (currently amended) The recombinant donor bacterium of claim 5, wherein the naturally-occurring transmissible plasmid is R6K and the mutation comprises a mutation in the R6K *pir* gene such that its encoded  $\pi$  protein comprises an at least one amino acid deletion or substitution at amino acid[[s]] 105, 106 or 107.

7. (currently amended) The recombinant donor bacterium of claim 1, wherein the donor bacterium eell is a non-pathogenic strain of bacteria selected from the group consisting of *Escherichia coli*, *Lactobacillus spp.*, *Lactococcus*, *Bifidobacteria*, *Eubacteria*, and bacterial minicells.

8. (currently amended) The recombinant donor bacterium of claim 1, wherein the recipient bacterium eell is a pathogenic strain of bacterium selected from the group consisting of *Campylobacter spp.*, *Enterobacter spp.*, *Enterococcus spp.*, *Escherichia coli*, *Gardnerella vaginalis*, *Haemophilis spp.*, *Helicobacter pylori*, *Mycobacterium tuberculosis*, *Propionobacter acnes*, *Pseudomonas aeruginosa* and other *Pseudomonas spp.*, *Salmonella typhimurium*, *Shigella spp.* and *Staphylococcus spp.*

9. (currently amended) The recombinant donor bacterium of claim 1, wherein the origin of replication is that of ~~derived from~~ a plasmid selected from the group consisting of R6K, RK2, *rts1*, p15A and RSF1010.

10. (currently amended) The recombinant donor bacterium of claim 1, wherein the origin of replication is selected from the group consisting of F and P1.

11. (currently amended) The recombinant donor bacterium of claim 1, wherein the screenable marker gene confers a nutritional selection advantage on cells containing the transmissible plasmid.

12. (currently amended) The recombinant donor bacterium of claim 1, wherein the transfer genes are those of ~~derived from~~ a plasmid selected from the group consisting of F, R6K and Ti.

13-15. (canceled)

16. (currently amended) ~~An A~~ recombinant donor bacterium, ~~which comprises a non-pathogenic donor bacterial cell~~ harboring at least one transmissible plasmid, said transmissible plasmid comprising:

- a) an origin of replication for synthesizing the plasmid in a bacterial cell;
- b) an origin of transfer from which conjugative transfer of the transmissible plasmid initiates from the donor bacterium cell to at least one recipient bacterium cell;
- c) at least one “killer gene” that, upon expression in a bacterial cell, produces a product that kills the cell; and
- d) at least one screenable marker gene;

wherein the donor bacterium cell further comprises one or more transfer genes conferring upon the donor bacterium cell the ability to conjugatively transfer the transmissible plasmid to the recipient bacterium cell, and wherein the donor bacterium cell is modified so as to be unaffected by the product of the “killer gene”, and further wherein the at least one recipient bacterium cell is a pathogenic bacterium that has not been modified so as to be affected by the product of the “killer gene”.

17. (currently amended) The recombinant donor bacterium of claim 16, wherein the transfer genes are contained on a helper plasmid within the donor bacterium cell, such that the transmissible plasmid is transmissible from the donor bacterium cell to a recipient bacterium cell, but is not further self-transmissible from the recipient bacterium cell to another recipient bacterium cell.

18. (currently amended) The recombinant donor bacterium of claim 16, wherein the transfer genes are contained on the transmissible plasmid, such that the transmissible plasmid is self-transmissible from the donor bacterium cell to a recipient bacterium cell, and further from the recipient bacterium cell to another recipient bacterium cell.

19. (currently amended) The recombinant donor bacterium of claim 16, wherein the “killer gene” kills the recipient bacterium cells by being expressed and thereby producing a gene product that is detrimental or lethal to the recipient bacterium bacterial cells, and the donor bacterium cells ~~have~~ has been modified so as to repress the expression of the “killer gene”, thereby avoiding production of the detrimental or lethal gene product.

20. (currently amended) The recombinant donor bacterium of claim 16, wherein the “killer gene” is a gene of ~~obtained from~~ a bacteriophage.

21. (currently amended) The recombinant donor bacterium of claim 20, wherein the bacteriophage is selected from the group consisting of T-series phages, P1, p22 and  $\lambda$ .

22. (currently amended) The recombinant donor bacterium of claim 16, wherein the donor bacterium ~~cell~~ is a non-pathogenic strain of bacteria selected from the group consisting of *Escherichia coli*, *Lactobacillus spp.*, *Lactococcus*, *Bifidobacteria*, *Eubacteria*, and bacterial minicells.

23. (currently amended) The recombinant donor bacterium of claim 16, wherein the recipient bacterium ~~cell~~ is a pathogenic strain of bacterium selected from the group *Campylobacter spp.*, *Enterobacter spp.*, *Enterococcus spp.*, *Escherichia coli*, *Gardnerella vaginalis*, *Haemophilis spp.*, *Helicobacter pylori*, *Mycobacterium tuberculosis*, *Propionobacter acnes*, *Pseudomonas aeruginosa* and other *Pseudomonas spp.*, *Salmonella typhimurium*, *Shigella spp.* and *Staphylococcus spp.*

24. (currently amended) The recombinant donor bacterium of claim 16, wherein the origin of replication is that of ~~derived from~~ a plasmid selected from the group consisting of R6K, RK2, rts1, p15A and RSF1010.

25. (currently amended) The recombinant donor bacterium of claim 16, wherein the origin of replication is selected from the group consisting of F and P1.

26. (currently amended) The recombinant donor bacterium of claim 16, wherein the screenable marker gene confers a nutritional selection advantage on cells containing the transmissible plasmid.

27. (currently amended) The recombinant donor bacterium of claim 16, wherein the transfer genes are those of ~~derived from~~ a plasmid selected from the group consisting of F, R6K and Ti.

28-31. (canceled)